3.—*Exploitable age.*

82. This has been determined in the case of the Naushahro division to be 30 years, and the same conditions apply here. A revolution of 30 years, which is what the exploitable age here means, is very appropriate for the dry forests in which regeneration is slow, but is hardly applicable to riverside forests in which the growth has every chance of doing well. Under regular yearly floods *kandi*, *bahan* and *lai* yield exploitable material in 15 years. In the year 1901-02 diameter measurements were taken of 2,073 coppice stems of *kandi* standing in coupes of both riverside and dry forests, and the following figures were obtained, showing the average growth in inches in the two instances :—

Year of felling.	Riverain forest.	Dry forests.
1895-1896 ...	... 5·17	3·51
1896-1897 ...	... 4·25	2·89
1897-1898 ...	... 3·65	2·43
1898-1899 ...	... 2·48	1·72
1899-1900 ...	... 1·77	1·20

It is true that the river changes repeatedly and that the rate of growth is affected by these changes, but even allowing for resulting retardation a period of 20 years for the revolution of fellings in riverside forests ought to be ample. The largest size of firewood to be grown is only 30″ in circumference, or less than 10″ in diameter, and there can be no advantage in allowing the produce to grow beyond the size at which it is marketable.

CHAPTER VIII.

The fellings.

83 The fellings are prescribed for a period of 10 years beginning from the year 1901-1902. Those for the first 2 years have been completed, and the areas felled over are closed for re-production. The fellings prescribed for 1903-1904 are marked off on the ground and will be likewise completed in due course. Those for the remaining 7 years are detailed in appendix C and are shown on the maps.

84. It was deemed advisable to prescribe fellings for only 10 years in the beginning, so that if any modifications were required to be made of either the revolution or the allotment of fellings, it could be easily done after that time and for a further period of 10 years or as may be necessary. Besides, in the peculiar circumstance of the Sind forests of the areas changing always, it is well not to look a head farther than a period of 10 years, if, indeed, that is not too long; perhaps half that number of years would be a safer limit wherein to anticipate working. The present prescription, too, is open to modification, if necessary, as regards the allotment of the fellings so long as the prescribed areas are not exceeded.

CHAPTER IX.

Sowings or plantings.

85. The only special work of sowing that will be required to be done has reference to blanks in *kandi* areas which will be sowed with the aid of cereal crops. Of course, there will be a limit to even this depending on the quality of the soil and the proximity of water for irrigation, but advantage should always be taken of this cheap and sufficient method of re-stocking denuded areas due to fire or lack of water. Encouragement should be given to deserving cultivators by remitting the assessment due on the cultivation in whole or in part as may be necessary.

86. Planting will be restricted to *tali* (*dalbergia*) and suitable areas on the banks of the river should be chosen on which to rear this valuable species. It requires tending and watering for the fist two or three years until it becomes

established, after which it is able to take care of itself and thrives well, provided neither soil nor sub-soil is sandy.

2.—BUILDINGS.

87. Suitable house and office accommodation is required for range officers in all the ranges: each building ought to cost about Rs. 2,000 which could be met by budget provision being made for one range a year. At present range officers make their own arrangements for housing themselves and their office, except in Mirpur where there is a Government building. Present arrangement for housing the protective establishment is sufficient.

CHAPTER X.

Forecast of financial results of proposed working:—

88. As long as the demand for firewood by the railway continues a sure market for the principal produce of the forests will be found. In the existing state of the forests the yearly out-turn of the fellings in fuel is estimated at 40,00,000 cubic ft. which, at the present low rate obtaining, cannot be expected to realise more than Rs 48,000; and, estimating the revenue from other sources at Rs. 50,000, the annual revenues will amount to Rs. 98,000. The average annual expenditure during the last five years (1897-98 to 1901-1902) has been Rs. 31,982, and the average annual profit Rs. 64,338, so that from the financial point of view the proposed working will compare favourably with the working in the past. With the improvement of the forests under systematic working and efficient supervision controlling the protection of closed areas, the annual yield and annual net profit will be larger, but it must be borne in mind that the productive area must also be kept up in place of exhausted lands which have lost their capacity for regeneration.

89. The following appendices accompany the report:—

Appendix A. Areas of forests and other details.
" B.* Areas of compartments and working circles.
" C. Prescription of coupes, 1901-02 to 1910-1911.
" D. Description of working circles.
" E. Settlement record.
" E^1. Rights of water-course.
" E^2. Rights of way.
" F.* List of rates at which loco. fuel is delivered at stations to the N.-W. Railway.
" G. Maximum gauge readings for each month for 22 years from 1881 at the Bukkur gauge.
" H. Revenue and expenditure for the last 10 years ending 1901-02.
" I. Out-turn of major and minor forest produce; revenue realised from ghats and return of grazing for 10 years ending 1901-02.
" J.* Grazing regulations.
" K.* Commissioner's special circulars: No. 22—Forest settlement officer—duties of— No. 23—Rules regarding alluvion and dilluvion owing to changes in the course of the river Indus or other waters in the Province of Sind. No. 24—Alluvial lands claimed by the Forest department.
" L. Erosion and accretion curve of the forests of Sukkur division from 1880-1901.
" M. 2" to a mile, maps of Sukkur division ranges.
" N. Map of the Sukkur division, 4 miles to 1 inch.

A. C. ROBINSON,

Divisional Forest Officer,
Working Plans (Sind).

Approved.

T. R. D. BELL,

Deputy Conservator of Forests,
Sind Circle.

Countersigned.

W. A. TALBOT,
Superintendent of Working Plans.

* Not printed.